

FDI Feature Interview

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The Honourable Jim Chown MLC, Member for Agricultural Region; Shadow Minister for Agriculture & Food; Regional Development; Royalties for Regions; Fisheries

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Key Points

- Developing and using the best agricultural practices we can afford, will serve to ensure WA's future food security and exports markets.
- Though *regenerative agriculture* can have application in smaller farming operations, the concept has limited relevance in broad-acre agriculture.
- WA tertiary institutions that are funded to conduct research and development in WA agriculture should liaise widely outside of academia and engage with farmer and other groups who are conducting research.
- To ensure a continuing supply of fresh water to WA, consideration will need to be given to harvesting supply from the Kimberley region, and by commissioning smaller, independent desalination plants in communities and on farms.
- Maintaining strong, effective and focussed biosecurity arrangements will protect WA agriculture from the importation of disease and other risks.

Introduction

The Western Australian agricultural industry continues to play a prominent role producing healthy food for local and Australian domestic markets and for international export. As highlighted by in the following Feature Interview, The Honourable Jim Chown MLC, Member for Agricultural Region and Shadow Minister for Agriculture & Food, the WA farming sector will need to face and overcome a range of current and future issues and their possible long-term effects in order to maintain and build upon its food production capabilities.

Interview

FDI - How do you view the future for agriculture and farming in WA? What role do you see *regenerative agriculture* having in the future?

Jim Chown – I think WA farming has a very strong future, especially when we consider that our population is increasing by 1.7 percent a year which means we might have to feed about 38 million by 2050. Presently Australians consumes about 2.5 kgs per person, per day. At this rate, we could need 100,000 tonnes of food per day by 2050.

Therefore, food security is essential. From an agricultural perspective, food proficiency and food growing in this major export state will become major factors in having the best agricultural practices that we can afford and use.

We have some of the most fragile soils in the world in Western Australia. The greatest challenges to our ability to grow food going forward are pH and soil acidity. We are fortunate in WA however, that we have cheap and easily available sources of lime, needed to reduce acids in soil. The best soil remediation, however, is to lift the level of pH to neutral, about 5 to 6 on the pH scale. Doing this will release phosphates and other elements that are essential to the plant but have been tied up in the soil. To me, that is the best form of soil remediation.

I believe there wouldn't be a WA farmer today, who wasn't very sensitive to soil conditions. Accordingly, there has been an absolute revolution in the last fifteen years about how we farm such as, [minimum tillage](#). In broadacre farming that practice is very good for harvesting the rainfall or other precipitation we receive, and it also has a mulching effect; crop stubble is retained, and eventually returned to the soil. That will lift the organic content in the soil profile over time.

Today we're growing crops where water usage efficiency has virtually doubled. This year, for instance, which has had a very short and dry winter, growers I talk to are expecting their crops to yield between 1.2 to 1.5 tonne of cereal crops per hectare; 25 years ago, they would expect only a third of those crop yield figures.

WA farmers are very good at using the elements and our natural resources. As I've just described, there are however, challenges going forward.

Regarding [regenerative agriculture](#), I believe it's a soft form of [organic farming](#) that's probably more pertinent to smaller agriculturalists. It focuses on soil, which is a good thing. In the broad acre perspective however, I can't see land being locked up and utilised under the auspices of *regenerative agriculture*. My belief is *regenerative agriculture* does not have a place in broad acre agriculture in this state and, while not against it, I would be very concerned if DPIRD (*Department of Primary Industries and Regional Development*) spent too much of its limited resources on this subject.

FDI - What measures need to be taken to address the long-term effects of land and soil degradation to the WA farming sector? Do you see DPIRD and wider science and technology playing a role in these efforts?

Jim Chown – An issue that should be concerning everybody is the ‘monoculture perspective’ we have in broad acre agriculture, usually a cereal crop such as wheat. I believe we need to look at diversifying our crops to include types of harvestable legume, which has application across all soil types and will serve to re-invigorate our soils. For instance, lupins grown in WA re-generated the mid-west sandplain in the 80s and 90s and continue to do so even today.

At a state level, DPIRD doesn’t really do much. That department’s finances are not what they used to be, and, in my opinion, their people are ‘desk-bound’ and do not understand the commercial world. For the reasons I stated earlier, DPIRD needs to be re-invigorated to ensure that WA agriculture steps up to the mark as the community requires it to do, noting that in thirty years’ time we will require more food. This reality is world-wide; food production must increase by at least 70 percent, including Western Australia and the other Australian states. That means we need to start now.

Agronomists and scientists have told me on numerous occasions of their concern that when they are given a grant to look at developing plant nutrition for instance, it is only for a set period of say three years. At that point the grant ‘falls over’ which means there is no continuity about progressing that science further. To keep going they need to re-apply for funding from government or a commercial institution. In the United States they do it differently; scientists are given a large amount of money that is usually commercially driven, and the scientific investigation is able to extend over a number of years until such time as they are tested and ‘field proven’. In Australia we lack that level of continuity. Rather, there is a piece-meal approach which needs to be addressed. Also, competition for funding between universities has always been an impediment. For example, I’m aware of grants being given for certain aspects of agricultural development where the arrangements are to split money between two universities. But, the researchers in each university don’t take a collaborative approach by talking to each other because they are aiming for the next tranche of funding to be able to carry on research.

In WA we have at least five farmer groups running their own R&D (research and development) programmes. They are highly professional organisations which were created up to fifteen years ago due to the shortfall of the Department of Agriculture winding back its ability to conduct R&D in the locations where they are situated. The R&D group’s own agronomists are undertaking research over a large area extending from Kalbarri to Esperance, containing different soil types and variances in climate and different ecological systems. I do note that university agriculture development academics liaise with the R&D groups, but more liaison is needed, and I encourage academia and agronomy specialists to talk with people who are conducting R&D outside of universities because they are very good at their craft.

FDI - What steps need to be taken to meet the challenge of ensuring our future food and water security?

Jim Chown – I think food security anywhere is essential, especially considering the global population is expected to be 10.8 billion people in 30 years. Look at the situation of [African](#)

[swine fever in China](#) for instance. China has half of the world's pigs with 440 million animals. Pigs are a staple and cheap source of food for them, but the estimates are that, by the end of this year, 200 million will have succumbed to the Swine fever for which there is no cure. The disease is now in Cambodia, Vietnam and parts of Russia and there is little doubt that it will go through Asia.

We are most fortunate in this nation to have a shoreline surrounding Australia. But we have remote areas, especially the northern parts, where we need to ramp up security. I see our greatest threat to our food security is not having effective [biosecurity](#) at our ports and airports where, if a major disease was to enter, we would find it virtually impossible to control due to the land area we would need to service. If something was to come into Australia, we would have it forever. I think biosecurity at our airports needs to be ramped up and we need to be ever vigilant. To me, an alarming statistic is that in the last 12 months, 27 tonnes of foods have been taken from international visitors coming to this country. Every single portion of those foods has the potential to impose a threat to our food and agricultural industry.

I also think we need a military presence of some kind on our west coast, which is becoming more and more accessible to our Asian neighbours, for a whole host of reasons.

Water security, and the usage of fresh water, is going to be a global challenge. India for instance, now needs to dig deeper for water in the Punjab area. Of all the world's water, only 2.5 percent is fresh, and of that, 1.5 percent is locked up in glaciers and the poles. In WA we have two desalination plants operating and they have been very successful. But they are currently operating at 100 percent whereas they used to operate at 80 percent and, as such, we need to commission another desalination plant in this state to give us secure domestic supply at the very least.

We're incredibly fortunate to have high levels of rainfall in the Kimberly area but, unfortunately in the wetter months, gigalitres of precious fresh water is lost to the ocean as runoff. I do believe that at some stage in the future we'll be harvesting those sources of water for agriculture and for domestic use. When talking about the [Fitzroy River](#) a friend of mine used the example that, if the Fitzroy River was in Israel, it would be a 'food bowl' for the Middle Eastern region due to the availability of an abundant supply of fresh water. Harnessing the Fitzroy River, for example, has environmental implications but the [CSIRO](#) provides a very good, independent report about catching the massive amounts of water that flow from the adjacent flood plains which otherwise flows into the ocean.

I would say that by the turn of this century this nation will be looking at those sorts of developments for its food and certainly as sources of fresh water.

FDI - What role do you think climate change is going to have?

Jim Chown – I certainly hope that climate change isn't a reality, but it'll be the next generation that proves or disproves the idea. From a WA perspective, we are certainly seeing a drop off in rainfall but, that's occurred before – the worst drought this state has

ever seen was in 1914 when it hardly rained at all. When I was farming near Dalwallinu, I had records of average annual rainfall figures from 1908 to 2000 which showed little or no variation on a decade by decade basis. I also know a farmer at Merredin whose records show that decade by decade, rainfall had actually increased by 3 mm. The variation we are seeing today in rainfall patterns is more summer rain and less winter rains or vice versa or, very little rainfall changes at all.

Whether these facts are attributable to climate change or natural phenomena, I don't know, and I challenge anybody else to say otherwise. What we need though, is to be very sensitive about how we use our environment, how we use the available water, and how we go about food production without detrimentally affecting the natural environment.

FDI - From a national perspective, do you have a sense of how WA is faring in meeting our future needs for food and water security?

Jim Chown – I think we are doing very well in food production in WA and a lot of that has to do with the fact that we don't experience massive droughts. We do have dry seasons, and 2019 is a good example, but putting climate change aside, we don't experience the long droughts that go on over 3 to 5 years as in eastern Australia. So, per capita, we're very good at producing food; if we were not good at it under the current circumstances, the Eastern States would be importing food from elsewhere.

Our agricultural water use efficiency, as I said previously, has trebled in the last 25 to 30 years. For our future, my hope is for science to become better at breeding plants and developing crops that use available water in a more efficient manner. This has occurred with cotton and genetically modified cotton plants are now cultivated all over Australia to now be twice as water efficient as older crop varieties.

In a large part of the south-west of our state water under the ground is highly saline. We know we have an underground ocean out there, as shown by all our salt lakes and the encroaching salt on our Wheatbelt farming communities. But, it's a water source and today it's possible to obtain commercial reverse osmosis systems that can turn saline water into highly potable water. They are driven by solar energy and can run 12 to 14 hours due to our long sunny days. The units I'm speaking about are cheap at \$25,000 to \$30,000, and I know of several growers who have them in daily operation. The concept is not dis-similar to the desalination plants that are supplying 50 percent of the potable water, if not more, to Perth households.

These sorts of innovations will help alleviate much of the water stress, particularly from a domestic perspective in regional Western Australia if they were adopted more widely. I would certainly like to see the saline water in the Wheatbelt used in this manner and be turned into something that is useful.

About the Interviewee:

Jim Chown was born in Victoria 1952 where the Chown family had farmed in Gippsland since 1848. In 1959 he moved to his grandfather's wheat and sheep properties at Dalwallinu. After completing his education, he returned to Dalwallinu to work on the family farm until 2005.

As a farmer Jim has experienced firsthand the massive changes in dry-land farming through the introduction of sub-clover in the 60's and white lupins in the 90's, a transition from multiple pass cultivation to minimum tillage and having selective and knock down herbicides as part of agriculture's methodology.

Any opinions or views expressed in this paper are those of the individual interviewee, unless stated to be those of Future Directions International.

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